

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
11445 Compaq Center Drive West
Houston, TX 77707

Attorney Docket No.: 200309365-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Sherif Yacoub	Confirmation No.:	2032
Serial No.:	10/699,264	Examiner:	Phan, Joseph T.
Filed:	October 30, 2003	Group Art Unit:	2614
Title:	SYSTEM AND METHOD FOR CALL CENTER DIALOG MANAGEMENT		

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF - PATENTS

Madam:

This is an Appeal Brief in connection with the decisions of the Examiner in a Final Office Action dated July 11, 2008. It is respectfully submitted that the present application has been twice rejected. Each of the topics required in an Appeal Brief and a Table of Contents are presented herewith and labeled appropriately.

TABLE OF CONTENTS

(1)	Real Party In Interest.....	3
(2)	Related Appeals And Interferences	3
(3)	Status Of Claims.....	3
(4)	Status of Amendments	3
(5)	Summary Of Claimed Subject Matter.....	3
(6)	Grounds of Rejection to be Reviewed on Appeal.....	.6
(7)	Arguments.....	6
I	<u>Rejection of claim 19 under 35 U.S.C. §101 as being directed to non-statutory subject matter.</u>	6
II	<u>Rejection of claims 10-16, 19 and 21 under 35 U.S.C. §102(e) as being anticipated by Comerford et al. (US Patent No. 6,748,361).</u>	7
(8)	Conclusion.....	11
(9)	Claim Appendix	12
(10)	Evidence Appendix	18
(11)	Related Proceedings Appendix.....	19

(1) Real Party In Interest

The real party in interest is Hewlett-Packard Development Company, L.P.

(2) Related Appeals And Interferences

There are no other appeals or interferences related to this case.

(3) Status Of Claims

Claims 1-22 are pending in the present application.

Claim 17 has been allowed.

Claims 1-16 and 18-22 stand rejected.

The rejection of claims 10-16, 19 and 21 are appealed.

(4) Status of Amendments

No amendment has been filed subsequent to the Final Office Action dated July 11, 2008.

(5) Summary Of Claimed Subject Matter

Claim 10 depends from independent claims 1 and therefore includes the elements of independent claim 1. Accordingly, claim 10 provides for a method for call center dialog management, comprising:

presenting a contact with a first call center dialog segment having a current call center dialog property (page 5, lines 20-21; page 11, lines 22-23; FIG. 2, FIG. 3);

receiving from the contact a contact dialog segment (page 5, lines 21-22; page 11, lines 23-24, FIG. 2; FIG. 3);

identifying a dialog property keyword within the contact dialog segment, the dialog property keyword including a request for a modification of the current call center dialog property (page 7, lines 10-21; page 11, lines 23-24; FIG. 2; FIG. 3);

replacing the current call center dialog property with a new call center dialog property in accordance with the request (page 8, lines 3-10; page 11, line 26 – page 12, line 1; FIG. 2; FIG. 3);

presenting a second call center dialog segment having the new call center dialog property to the contact (page 11, lines 15-16; page 12, lines 2-3; FIG. 2; FIG.3);

generating a set of dialog metrics from the contact dialog segment (page 8, lines 17-19; FIG. 3); and

comparing the set of dialog metrics against a set of dialog metric thresholds (page 8, lines 3-4; FIG. 3); and

wherein replacing includes,

replacing the current call center dialog property with a second new call center dialog property, if no dialog property keyword is identified and the generated dialog metrics vary from the first set of thresholds by a first predetermined amount (page 9, lines 4-7 and lines 19-23; FIG. 3).

Claim 11 provides for a method for call center dialog management, comprising:

presenting a contact with a first call center dialog segment having a current call center dialog property (page 5, lines 20-21; page 11, lines 22-23; FIG. 2, FIG. 3);

receiving from the contact a contact dialog segment (page 5, lines 21-22; page 11, lines 23-24, FIG. 2; FIG. 3);

determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment (page 7, lines 10-21; page 11, lines 23-24; FIG. 2; FIG. 3);

generating a first dialog metric based on the determination (page 8, lines 17-19; FIG. 3);

generating a set of dialog metrics including the first dialog metric from the contact dialog segment (page 8, lines 17-19; FIG. 3);

comparing the set of dialog metrics against a set of dialog metric thresholds (page 8, lines 3-4; FIG. 3);

replacing the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount (page 9, lines 4-7 and lines 19-23; FIG. 3); and

presenting a second call center dialog segment having the new call center dialog property to the contact (page 11, lines 15-16; page 12, lines 2-3; FIG. 2; FIG. 3).

Claim 19 provides for a computer-usable medium embodying computer program code for commanding a computer to effect call center dialog management, comprising:

presenting a contact with a first call center dialog segment having a current call center dialog property (page 5, lines 20-21; page 11, lines 22-23; FIG. 2, FIG. 3);

receiving from the contact a contact dialog segment (page 5, lines 21-22; page 11, lines 23-24, FIG. 2; FIG. 3);

determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment (page 7, lines 10-21; page 11, lines 23-24; FIG. 2; FIG. 3);

generating a first dialog metric based on the determination (page 8, lines 17-19; FIG. 3);

generating a set of dialog metrics including the first dialog metric from the contact dialog segment (page 8, lines 17-19; FIG. 3);

comparing the set of dialog metrics against a set of dialog metric thresholds (page 8, lines 3-4; FIG. 3);

replacing the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount (page 9, lines 4-7 and lines 19-23; FIG. 3); and

presenting a second call center dialog segment having the new call center dialog property to the contact (page 11, lines 15-16; page 12, lines 2-3; FIG. 2; FIG. 3).

Claim 21 provides for a system for call center dialog management, comprising a:

means for presenting a contact with a first call center dialog segment having a current call center dialog property (page 5, lines 20-21; page 11, lines 22-23; FIG. 2, FIG. 3);

means for receiving from the contact a contact dialog segment (page 5, lines 21-22; page 11, lines 23-24, FIG. 2; FIG. 3);

determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment (page 7, lines 10-21; page 11, lines 23-24; FIG. 2; FIG. 3);

generating a first dialog metric based on the determination (page 8, lines 17-19; FIG. 3);

means for generating a set of dialog metrics including the first dialog metric from the contact dialog segment (page 8, lines 17-19; FIG. 3);

means for comparing the set of dialog metrics against a set of dialog metric thresholds (page 8, lines 3-4; FIG. 3);

means for replacing the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount (page 9, lines 4-7 and lines 19-23; FIG. 3); and

means for presenting a second call center dialog segment having the new call center dialog property to the contact (page 11, lines 15-16; page 12, lines 2-3; FIG. 2; FIG.3).

(6) Grounds of Rejection to be Reviewed on Appeal

a) Whether claim 19 is unpatentable under 35 U.S.C. §101(a) as being directed to non-statutory subject matter.

b) Whether claims 10-16, 19 and 21 are unpatentable under 35 U.S.C. §102(e) as being anticipated by Comerford et al. (US Patent No. 6,748,361).

(7) Arguments

I Rejection of claim 19 under 35 U.S.C. §101 as being directed to non-statutory subject matter

Examiner has rejected claim 19 as being directed to non-statutory subject matter. Appellant respectfully traverses the rejection of claim 19. Claim 19, as originally presented, recites "A computer-usable medium embodying computer program code for commanding a computer to effect call center dialog management." The computer-usable medium embodying computer program code for commanding a computer to effect call center dialog management comprises presenting a contact with a first call center dialog segment having a current call center dialog property, receiving from the contact a contact dialog segment, determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment, generating a first dialog metric based on the determination, generating a set of dialog metrics including the first dialog metric from the contact dialog segment, comparing the set of dialog metrics against a set of dialog metric thresholds, replacing

the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount and presenting a second call center dialog segment having the new call center dialog property to the contact.

MPEP 2106.01 defines functional descriptive material as consisting of data structures and computer programs that impart functionality when employed as a computer component. MPEP 2106.01 further states that when functional descriptive material is recorded on some computer readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since the use of technology permits the function of the descriptive material to be realized, *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035.

Claim 19 recites "A computer-usable medium embodying computer program code for commanding a computer to effect call center dialog management." Since a computer-usable medium is the equivalent of a computer readable medium and since claim 19 recites functionally descriptive material recorded on the computer-usable medium, Appellant respectfully requests that the rejection of claim 19 as being directed to non-statutory subject matter be withdrawn.

II Rejection of claims 10-16, 19 and 21 under 35 U.S.C. §102(e) as being anticipated by Comerford et al. (US Patent No. 6,748,361)

The Examiner has rejected claims 10-16, 19 and 21 as being unpatentable over Comerford et al., US Patent No. 6,748,361 (hereinafter referred to as "Comerford"). Appellant respectfully traverses the rejection of claims 10-16, 19 and 21.

The Applicable Law

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

The Comerford Reference

Comerford generally discloses a personal speech assistant (PSA) that provides a conversational interface to a device, such as for example a personal digital assistant (PDA). The PSA accepts user provided voice commands via a microphone and decodes the received sounds into vocabulary words (col.8, lines 64-66). The PSA also includes a text to speech engine that generates a response in audible form via a speaker (col. 10, lines 31-40). The user is provided with the option of adjusting the speech sounds generated by the PSA text to speech engine in order to give a distinctive voice to the application (col. 14, lines 43-46). The text to speech encoders may be initialized with initialization parameters or speaker characteristics such as gender, volume, speed, roughness, breathiness, head size, pitch fluctuation, pitch baseline and quality (col. 15, lines 35-39). The PSA includes a Dialog Manager that provides instructions to a user and queues user responses in a manner that helps support the illusion of understanding and cooperation by the PSA (col. 17, lines 63-66). For example, if a user issues a verbal request "Help" the Dialog Manager may respond with a verbal prompt string such as "Say the name of the application" (col. 18, lines 13-19). The PSA may prompt the user in response to an error in a speech input received from a user. For example, in response to a low volume error, the PSA may issue a verbal request "Please speak louder" or in response to receipt of a word that is not recognized by the PSA, the PSA may issue a verbal request "Please use command words." Once a prompt string is defined by the PSA, the prompt string is forwarded to the Text to Speech (TTS) Conversion Engine. The TTS engine converts the prompt string into audible synthetic speech (col. 18, lines 23-33). The user is also provided with the option of addressing the dialog manager and changing the initialization parameters such as the speed of the synthesized speech by means of a spoken command, such as "speak slower" (col. 18 line 66, col. 19, line 14).

Rejection of claims 10-16, 19 and 21 under 35 U.S.C. §102(e) as being anticipated by Comerford et al.

Claim 10 depends from independent claim 1 and therefore includes the elements of claim 1. Accordingly, Claim 10 recites a method for call center dialog management. A contact is presented with a first call center dialog segment having a current call center dialog property. A contact dialog segment is received from the contact. A dialog property keyword is identified within the contact dialog segment, the dialog property keyword including a request for a modification of the current call center dialog property. *A set of dialog metrics is generated from the contact dialog segment. The set of dialog metrics is compared against a set of dialog metric thresholds.* The current call center dialog property is replaced with a new call center dialog property in accordance with the request. *If no dialog property keyword is identified and the generated dialog metrics vary from the first set of thresholds by a first predetermined amount, replacing the current call center dialog property with a second new call center dialog property.* A second call center dialog segment having the new call center dialog property is presented to the contact.

While Comerford discloses using user spoken commands to alter parameters associated with the synthesized speech generated by a PSA, Comerford does not disclose *generating a set of metrics from a contact dialog segment, comparing the set of metrics against a set of dialog metric thresholds and if no dialog property keyword is identified and the generated dialog metrics vary from the first set of thresholds by a first predetermined amount replacing the current call center dialog property with a second new call center dialog property as recited by claim 10.* In fact, Comerford does not even address replacing a current call center dialog property with a second new call center dialog property in the event no dialog property keyword is identified in a contact dialog segment.

Independent claim 11 recites a method for call center dialog management. Independent claim 19 recites a computer usable medium embodying computer program code for commanding a computer to effect call center dialog management and independent claim 21 recites a system for call center dialog management. A contact is presented with a first call center dialog segment having a current call center dialog property. A contact dialog segment is received from the contact. A determination is made regarding whether the contact dialog

segment includes a request for help associated with interpreting the first call center dialog segment. *A first dialog metric is generated based on the determination. A set of dialog metrics including the first dialog metric is generated from the contact dialog segment. The set of dialog metrics is compared against a set of dialog metric thresholds. The current call center dialog property is replaced with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount.* A second call center dialog segment having the new call center dialog property is presented to the contact.

Comerford does not disclose making a determination regarding whether a contact dialog segment includes a request for help associated with interpreting a first call center dialog segment, *generating a first dialog metric is generated based on the determination, generating a set of dialog metrics including the first dialog metric from the contact dialog segment, comparing the set of dialog metrics against a set of dialog metric thresholds and replacing the current call center dialog with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount* as recited by the claims at issue. While Comerford discloses a PSA that responds to spoken requests for help from a user, the Comerford disclosure does not teach *comparing the set of dialog metrics against a set of dialog metric thresholds and replacing the current call center dialog with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount* as recited by claim 11, 19 and 21.

Since Comerford does not disclose each of the elements recited by claims 10, 11, 19 and 21, Appellant respectfully requests that the rejection of such claims as being unpatentable over Comerford be withdrawn.

Dependent claims 12-16, which further define patentably distinct independent claim 11, are also believed to be allowable over Comerford. Accordingly, Appellant respectfully requests that the rejection of dependent claims 12-16 under 35 U.S.C. § 102(e) be withdrawn.

PATENT

Atty Docket No. 200309365-1
App. Ser. No.: 10/699,264

(8) Conclusion

For at least the reasons given above, the rejection of claims 10-16, 19 and 21 as being unpatentable is improper. Accordingly, it is respectfully requested that such rejections by the Examiner be reversed and these claims be allowed. Attached below for the Board's convenience is an Appendix of claims 1-22, as currently pending.

Respectfully submitted,

Dated: March 11, 2009

By



Manisha Chakrabarti
Registration No.: 41,665

MANISHA CHAKRABARTI, ESQ.
3108 South Route 59
Suite 124-282
Naperville, Illinois 60564
(630) 355-3376

(9) Claim Appendix

1. A method for call center dialog management, comprising:
presenting a contact with a first call center dialog segment having a current call center dialog property;
receiving from the contact a contact dialog segment;
identifying a dialog property keyword within the contact dialog segment, the dialog property keyword including a request for a modification of the current call center dialog property;
replacing the current call center dialog property with a new call center dialog property in accordance with the request; and
presenting a second call center dialog segment having the new call center dialog property to the contact.
2. The method of claim 1:
wherein the dialog property keyword indicates a dialog speed; and
wherein replacing includes replacing a first dialog speed with a second dialog speed.
3. The method of claim 1:
wherein the dialog property keyword indicates a dialog language; and
wherein replacing includes replacing a first dialog language with a second dialog language.
4. The method of claim 1:
wherein the dialog property keyword indicates a contact expertise level; and
wherein replacing includes replacing a first contact expertise level with a second contact expertise level.

5. The method of claim 1:
wherein the dialog property keyword indicates a contact help level; and
wherein replacing includes replacing a first contact help level with a second contact help level.
6. The method of claim 1:
wherein replacing includes replacing a first pre-recorded call center dialog segment having the current call center dialog property with a second pre-recorded dialog segment having the new center dialog property.
7. The method of claim 1:
wherein replacing includes adjusting a text-to-speech synthesizer from generating center dialog segments having the current call center dialog property toward generating center dialog segments having the new call center dialog property.
8. The method of claim 1:
wherein replacing includes adjusting a Voice-XML prosody tag from generating center dialog segments having the current call center dialog property towards generating center dialog segments having the new call center dialog property.
9. The method of claim 1:
wherein replacing includes adjusting a digital signal processor time-scale modification.
10. The method of claim 1:
further comprising,
generating a set of dialog metrics from the contact dialog segment; and
comparing the set of dialog metrics against a set of dialog metric thresholds; and
wherein replacing includes,

replacing the current call center dialog property with a second new call center dialog property, if no dialog property keyword is identified and the generated dialog metrics vary from the first set of thresholds by a first predetermined amount.

11. A method for call center dialog management, comprising:
 - presenting a contact with a first call center dialog segment having a current call center dialog property;
 - receiving from the contact a contact dialog segment;
 - determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment;
 - generating a first dialog metric based on the determination;
 - generating a set of dialog metrics including the first dialog metric from the contact dialog segment;
 - comparing the set of dialog metrics against a set of dialog metric thresholds;
 - replacing the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount; and
 - presenting a second call center dialog segment having the new call center dialog property to the contact.
12. The method of claim 11 wherein generating includes:
 - totaling a number of times the contact was asked to respond to the first call center dialog segment.
13. The method of claim 11 wherein generating the first dialog metric includes:
 - totaling a number of times the contact requested help.
14. The method of claim 11 wherein generating includes:
 - calculating how poor the contact's grammar is.
15. The method of claim 11 wherein replacing includes:
 - replacing a first dialog speed with a second dialog speed.

16. The method of claim 11 wherein replacing includes:
replacing a first dialog language with a second dialog language.
17. A method for call center dialog management, comprising:
presenting a contact with a first call center dialog segment having a current call center dialog property;
receiving from the contact a contact dialog segment;
determining whether the contact dialog segment includes a dialog property keyword, the dialog property keyword including a request for a modification of the current call center dialog property;
generating a set of dialog metrics from the contact dialog segment;
comparing the set of dialog metrics against a set of dialog metric thresholds;
replacing the current call center dialog property with a new call center dialog property in accordance with the request based on the determination;
replacing the current call center dialog property with a second new call center dialog property, if no dialog property keyword is identified and the generated dialog metrics vary from the set of thresholds by a first predetermined amount; and
presenting a second call center dialog segment having the new call center dialog property to the contact.
18. A computer-usable medium embodying computer program code for commanding a computer to effect call center dialog management, comprising:
presenting a contact with a first call center dialog segment having a current call center dialog property;
receiving from the contact a contact dialog segment;
identifying a dialog property keyword within the contact dialog segment, the dialog property keyword including a request for a modification of the current call center dialog property;
replacing the current call center dialog property with a new call center dialog property in accordance with the request; and

presenting a second call center dialog segment having the new call center dialog property to the contact.

19. A computer-usable medium embodying computer program code for commanding a computer to effect call center dialog management, comprising:

presenting a contact with a first call center dialog segment having a current call center dialog property;

receiving from the contact a contact dialog segment;

determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment;

generating a first dialog metric based on the determination;

generating a set of dialog metrics including the first dialog metric from the contact dialog segment;

comparing the set of dialog metrics against a set of dialog metric thresholds;

replacing the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount; and

presenting a second call center dialog segment having the new call center dialog property to the contact.

20. A system for call center dialog management, comprising a:

means for presenting a contact with a first call center dialog segment having a current call center dialog property;

means for receiving from the contact a contact dialog segment;

means for identifying a dialog property keyword within the contact dialog segment, the dialog property keyword including a request for a modification of the current call center dialog property;

means for replacing the current call center dialog property with a new call center dialog property in accordance with the request; and

means for presenting a second call center dialog segment having the new call center dialog property to the contact.

21. A system for call center dialog management, comprising a:
- means for presenting a contact with a first call center dialog segment having a current call center dialog property;
 - means for receiving from the contact a contact dialog segment;
 - determining whether the contact dialog segment includes a request for help associated with interpreting the first call center dialog segment;
 - generating a first dialog metric based on the determination;
 - means for generating a set of dialog metrics including the first dialog metric from the contact dialog segment;
 - means for comparing the set of dialog metrics against a set of dialog metric thresholds;
 - means for replacing the current call center dialog property with a new call center dialog property, if the generated dialog metrics vary from the set of thresholds by a predetermined amount; and
 - means for presenting a second call center dialog segment having the new call center dialog property to the contact.
22. A system for call center dialog management, comprising:
- an interactive voice response module for presenting a contact with a first call center dialog segment having a current call center dialog property and receiving from the contact a contact dialog segment;
 - a dialog analysis module for identifying a dialog property keyword within the contact dialog segment, the dialog property keyword including a request for a modification of the current call center dialog property;
 - a dialog property controller for replacing the current call center dialog property with a new call center dialog property in accordance with the request; and
 - wherein the interactive voice response module then presents a second call center dialog segment having the new call center dialog property to the contact.

PATENT

Atty Docket No. 200309365-1
App. Ser. No.: 10/699,264

(10) Evidence Appendix

None.

PATENT

Atty Docket No. 200309365-1
App. Ser. No.: 10/699,264

(11) Related Proceedings Appendix
None.